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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,423	10/10/2003	Jong-Min Wang	Q77871	9619

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EXAMINER	
KIM, RICHARD H	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/682,423	WANG, JONG-MIN	
	Examiner	Art Unit	
	Richard H. Kim	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6* is/are allowed.

6)☒ Claim(s) *4* is/are rejected.

7)☒ Claim(s) *5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim.4 is rejected under 35 U.S.C. 103(a) as being unpatentable over unpatentable of Wu et al. (US 5,245,451) in view of Son et al. (US 6,545,738 B2), Johnson et al. (US 5,073,010), Tanada et al. (US 6,671,015 B2) and Sharp et al. (US 6,380,997 B1).

Wu et al. discloses a method of driving a reflective type liquid crystal display having a polarization beam splitter (1), a display panel disposed between the polarization beam splitter and a mirror in which a liquid crystal (16) is filled between first electrode layers, disposed to be opposite to each other (28, 32), a compensation panel disposed between the display panel and the polarization beam splitter (4) in which liquid crystal is filled between second electrode layer, disposed opposite to each other (28', 32'), and the first and second electrode, comprising the steps of: applying an AC potential to the second electrode layer of the compensation panel; and applying an AC potential to the first electrode layer of the display panel (col. 4, lines 34-39). However, the reference does not disclose that half-V type ferroelectric liquid crystal is used.

Son et al. discloses utilizing a half-V type ferroelectric liquid crystal in a liquid crystal cell (col. 1, lines 40-44).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a half-V type ferroelectric liquid crystal in the compensation

panel and the display panel since one would be motivated to enhance a contrast ratio and enables the liquid crystal to be easily driven (col. 1, lines 43-44).

Furthermore the reference does not apply an AC potential corresponding to a gray scale of display data.

Johnson et al. discloses applying an AC potential corresponding to a gray scale of display data (col. 3, lines 45-49).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply an AC potential corresponding to a gray scale of display data since one would be motivated to create a linear gray level operation (col. 4, lines 57-59).

Moreover, the reference does not disclose that the electrodes are orthogonal to each other.

Tanada et al. discloses electrodes disposed orthogonal to each other (col. 7, lines 27-39).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the electrodes to be disposed orthogonal to each other since one would be motivated to enable a passive matrix type liquid crystal (col. 6, line 39).

Lastly, the reference does not disclose that the display panel satisfies a quarter plate condition and the compensation panel satisfied a half plate condition.

Sharp discloses a display panel satisfying a quarter wave plate condition (Fig. 19b, ref. 560) and a compensation plate satisfying a half plate condition (520).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a display panel satisfying a quarter wave plate condition and a compensation plate satisfying a half plate condition since one would be motivated to four states

of brightness (col. 5, lines 55), thereby improving "overall throughput and spectral purity (col. 3, lines 5, 6).

Response to Arguments

3. Applicant's arguments, filed 7/29/05, with respect to the rejection(s) of claim(s) 4-6 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Sharp et al. (US 6,380,997 B1).

Allowable Subject Matter

1. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

2. Claim 6 is allowable over prior art.

3. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, taken alone or in combination fails to teach the method wherein an AC potential, by which an included angle between an axis of the liquid crystal of the compensation panel and an axis of the liquid crystal of the display panel in a case that a potential is not applied to the display panel is varied within a range of 67.5^0-90^o, is applied to the second electrode layers of the compensation panel.

Neither cited reference disclose that the angle between an axis of the liquid crystal of the compensation panel and an axis of the liquid crystal of the display panel is varied between 67.5^0-90^o when an AC voltage is applied to the second electrode layer of the compensation and no

potential is applied to the display panel.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H. Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard H Kim
Examiner
Art Unit 2871

RHK

ANDREW SCHECHTER
PRIMARY EXAMINER